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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,692	02/27/2002	Hajime Yuzurihara	2271/66827	1594
7590 05/25/2004			EXAMINER	
Ivan S. Kavrukov Cooper & Dunham LLP 1185 Avenue of the Americas New York, NY 10036			ANGEBRANNDT, MARTIN J	
			ART UNIT	PAPER NUMBER
			1756	
DATE MAILED: 05/25/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,692	YUZURIHARA ET AL.	
	Examiner	Art Unit	
	Martin J Angebranndt	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-11 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The response of the applicant has been read and given careful consideration. The rejection of claim 16 under the second paragraph of 35 U.S.C. 112 is withdrawn based upon the amendment to the claim. Responses to the arguments of the applicant are presented after the first rejection to which they are directed.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. '686, in view of Yamada et al. EP 1058249.

Maeda et al. '686 teaches the example corresponding to figure 73(a) or 74(a) at Col. 19/lines 15-48 which uses a gold reflective layer and use zirconia as the dielectric material.

Yamada et al. EP 1058249 teaches various dielectric layers which include mixtures, multilayered structures of various oxides, carbides and sulfides, including ZnS, SiC, SiO₂ and ZrO₂ [0056]. Various reflective layers including Al, Au, Ag, Cu, Ta and alloys thereof are disclosed. [0071]. Useful recording layers include AgInSbTe with Ag_{0.5-4}In₃₋₈Sb₅₆₋₆₈Te₂₄₋₃₀ being exemplified in table 1 on page 6, please note that example 6 adds Ge in 0.5%. The increased recording speed when using these recording layer compositions is disclosed. [0016-0023].

It would have been obvious to one skilled in the art to modify the examples of Maeda et al. '686 by using other reflective layer materials known in the art and disclosed as functional equivalents, such as Ag or Ag-Cu alloys, in place of the Au with a reasonable expectation of

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forming a useful optical recording medium. Further, it would have been obvious to modify the resulting medium by using other recording layers, such as the AgInSbTe layers of Yamada et al. EP 1058249 to gain advantages attributed by this reference to these recording layers such as increased sensitivity/recording speed.

Maeda et al. '686 is cited for the examples in column 19. The applicant spends much time repeating the examiner's position, but seems to imply on page 12 of the response that the silver reflective layer confer the ability to record a high velocities, improved recording cyclability, storage durability and overall reliability. The examiner's position is that this is not true for the entire scope of coverage sought for the following reasons. Silver reflective layers and gold layer are both thermally conductive and in appropriate thicknesses would be able to dissipate any heat generated during writing. The optimization for high speed recording involves optimizing the thicknesses and compositions of the recording, reflective and dielectric layers. The argued benefits may be achievable within the scope of the coverage sought, but requires optimization. The examiner notes that the improvements ascribed by the applicant to the invention are not included in the recitation of the claims and therefore cannot serve to confer patentability, where they are not achieved for the full scope of coverage sought. The rejection stands.

4. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452.

Yamashita et al. EP 0475452 teaches optical or magneto-optical recording media using stabilized zirconia as a dielectric layer material. Optical recording layers disclosed include phase change materials (8/8/26-57). The use of SiO₂, CaO, MgO, LaO, Sc₂O₃, Y₂O₃ and others. (6/32-

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47). The reflective layer may be Al, Cu, Au, Ag or other metals. (5/29-32). See examples disclosed with respect to figure 8.

It would have been obvious to modify example 8 by using a phase change recording layer and a silver or silver/copper alloy layer, in place of the magneto-optic recording layer and the Al reflective layer based upon the disclosure of equivalence. Further, it would have been obvious to modify the invention by using SiO₂, CaO, MgO, LaO, Sc₂O₃ or Y₂O₃, in place of the BeO or Al₂O₃ with a reasonable expectation of stabilizing the zirconia.

The rejection stands for the reasons provided above as no further arguments beyond those addressed above were directed at this line of rejection.

5. Claims 1-3,5 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452, further in view of Yura JP 01-258222, JP 61-180945 or JP 04-032043.

Yura JP 01-258222 teaches the addition of various oxides to zirconia in amounts of a few mole %. The recording layer is a magnetic recording medium.

JP 61-180945 teaches optical recording media with silica, zirconia and niobium oxide protective layers. Note that the combination of samples 2 and 3 are better than other mixtures or silicon dioxide alone (table 1, page 4)

JP 04-032043 teaches magneto-optical recording media, which use mixed zirconia, silica dioxide protective layers. The zirconia may be present in an amount of 36-46%.

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the teachings of Yamashita et al. EP 0475452 by using the specific amounts of the

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other oxides to the zirconia to achieve the desired effects based upon the teachings of Yura JP 01-258222, JP 61-180945 or JP 04-032043.

The assertion that the silica/zirconia protective layers are not taught ignore the teachings of Yura JP 01-258222, JP 61-180945 and JP 04-032043.

6. Claims 1-5 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452, further in view of either of Yura JP 01-258222, JP 61-180945 or JP 04-032043 combined with either Yamada et al. EP 1058249 or Ohno et al. EP 087868

Ohno et al. EP 087868 teaches optical recording media using recording layers embraced by the formula shown on page 5 at lines 3-54. The additives have benefits including stabilization and high speed crystallization. (5/17-24). See example 8.

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the combination of Yamashita et al. EP 0475452, further in view of either of Yura JP 01-258222, JP 61-180945 or JP 04-032043 by using other recording layers known in the art, such as those taught by either Yamada et al. EP 1058249 or Ohno et al. EP 087868 with a reasonable expectation of forming a useful optical recording medium with the benefits ascribed to the recording layers by the references.

The rejection stands for the reasons provided above as no further arguments beyond those addressed above were directed at this line of rejection.

7. Claims 6-11 are allowable over the prior art.

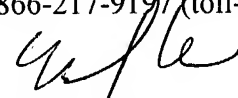
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannt whose telephone number is 571-272-1378.

The examiner can normally be reached on Monday-Thursday and alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebrannndt
Primary Examiner
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05/19/2004